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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,586	04/25/2005	Kenji Saito	2005_0635A	4361

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WASHINGTON, DC 20006-1021

EXAMINER

SCRUGGS, ROBERT J

ART UNIT	PAPER NUMBER
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3723

MAIL DATE	DELIVERY MODE
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06/22/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/532,586

Applicant(s)

SAITO ET AL.

Examiner

Robert Scruggs

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/28/07.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-13,15 and 16 is/are pending in the application.
- 4a) Of the above claim(s) 2 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-13,15 and 16 is/are rejected.
- 7) ☒ Claim(s) 1,12,13,15 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the amendment received on March 28, 2007.

Claims 1, 3-13, 15 and 16 remain pending in the application.

Claim Objections

2. Claims 1, 11, 12, 13, 15 and 16 are objected to because of the following informalities: In claims 1 and 11 the applicant discloses that the liquid medium "optionally" includes an oxidizing material and also that a "hydrogen atom may be present". These claims should be re-written to exclude these features because it leaves the claims somewhat vague (does the liquid medium actually require the oxidizing material, does the oxidizing material actually require a hydrogen atom and is the hydrocarbon part of the oxidizing material?). The examiner will assume that an oxidizing material must be present and includes a hydrocarbon with a hydrogen atom. The examiner would like to note that claims 12, 13, 15, and 16 should be deleted since they are products by process claims, which appear to be merely a vacuum member having a polished inner surface. No further structure appears to be claimed. It doesn't make a difference if the inner surface is polished with the currently claimed liquid medium, having "saturated hydrocarbon", or other polishing methods, as long as one meets the structural features of the product (see MPEP 2113). Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3-13, 15 and 16 are **Finally** rejected under 35 U.S.C. 103(a) as being unpatentable over Higuchi et al. (previously cited) in view of Noguchi et al. (previously cited) and Kusano et al. (5041304). Higuchi et al. and Noguchi et al. as mentioned in the applicant's specification (see specification, pages 3-6) disclose the known process of surface treating an inner surface of a vacuum member by first mechanically polishing the vacuum member with a liquid medium containing hydrogen atoms, then subjecting the vacuum member to a chemical or electrochemical polishing process. Higuchi et al. and Noguchi et al. also disclose the use of an oxidizing material formed as water which could be added to the liquid medium (see paragraph 6 of Higuchi et al.) however Higuchi et al. and Noguchi et al. lack a liquid medium absent of any hydrogen atoms where said liquid medium being a hydrocarbon in a molecule of which the hydrogen atom or hydrogen atoms are all substituted with a fluorine atom or fluorine atoms. However, Kusano et al. teaches of a surface treatment method including, an unsaturated hydrocarbon compound (column 2, Line 57) under ordinary pressure (atmospheric is considered ordinary, column 2, Lines 14-21) and ordinary temperature (column 4, Line 62) and wherein the hydrogen atoms are replaced with fluorine atoms (column 2, Line 57-61) for imparting a low surface energy thereby providing a smooth surface on the workpiece. The compound disclosed by Kusano et al. is a gaseous compound however regardless of the medium, gas, liquid or even solid, since Kusano et al. teaches a compound having the same effect or benefit as claimed by the applicant,

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which is to impart a smooth surface on the workpiece, the mediums could be interchangeable. Therefore, Kusano et al. is used to teach of a medium including hydrocarbon compound including hydrogen atoms, where said hydrogen atoms are replaced with fluorine atoms. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the liquid medium used in the known process, of Higuchi et al. and Noguchi et al. with a liquid medium formed as an unsaturated hydrocarbon compound under ordinary pressure and ordinary temperature, wherein the hydrogen atoms are replaced with fluorine atoms, as taught by Kusano et al. in order to provide a workpiece having a reduced surface energy and a low coefficient of friction thereby providing for a much smoother surface.

Response to Arguments

5. Applicant's arguments filed March 28, 2007 have been fully considered but they are not persuasive.
6. Applicant contends that, **"Kusano et al. teaches away from the use of a saturated hydrocarbon."**
 - a. The examiner respectfully disagrees with this statement. Kusano et al. mentions that some of the materials chosen in the prior art were not as satisfactory as claimed in their invention. This does not mean that all saturated materials are unsatisfactory, only the ones used in the prior art. Furthermore, the applicant discloses (see example 1, pages 35 and 36 of specification) that FC-77 is used as the saturated material. Kusano et al. teaches of using various FC

(Fluorinert) materials (see column 3, lines 45-48). These cyclic hydrocarbons can also be saturated since FC-77 could be selected depending on the desire of the user. The purpose is to provide a surface on the vacuum member, which Kusano et al. does disclose. Therefore, the examiner believes the rejection is proper and thus maintained.

7. Applicant contends that, **"the surface treatment. Kusano et al. neither disclose nor suggest using a medium for a surface treatment. Further, although the Examiner asserts that mediums (gas, liquid or solid) could be interchangeable, the Examiner has provided no evidence to support this."**

b. Since, Kusano et al. teaches of a compound having the same effect or benefit as claimed by the applicant, which is to impart a smooth surface on the workpiece, the mediums could be interchangeable. Fluorinating a hydrocarbon is old and well known in the art especially when a user desires to have a water repellent material. Providing a gas, liquid or a solid to accomplish this concept is not novel because all yield an object with similar properties. Therefore, Kusano et al. can be used to teach that a medium comprising a hydrocarbon compound including hydrogen atoms, where said hydrogen atoms are replaced with fluorine atoms for surface treatment of a workpiece.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Scruggs whose telephone number is 571-272-8682. The examiner can normally be reached on Monday-Friday, 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on 571-272-4485. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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